Winston H. Hickox
Secretary for Environmental Protection

Air Resources Board

Alan C. Lloyd, Ph.D.
Chairman
9528 Telstar Avenue • P.O. Box 8001 • El Monte, California 91731 • www.arb.ca.gov

Gray Davis
Governor

May 10, 1999

Reference No. C-99-313

Ms. Kate Drakos
Director of Government Affairs
Engine Manufacturers Association (EMA)
1420 Fifth Avenue, Suite 2200
Seattle, WA 98101

Dear Ms. Drakos:

This is in response to your April 26, 1999, letter that provides comments on the workshop conducted by the Air Resources Board (ARB) on April 8, 1999. In addition, the EMA amends its "DF Test Procedures" that was submitted previously; the amendment was to add one section for testing the durability engines with adjustable parameters.

I. The EMA's Comments on the April 8, 1999, Workshop

1. For a lack of manufacturer's data and information, the following scheduled maintenance on the test engines is acceptable to the ARB. For engines that are certified to 50, 125, 250, 300 or 500 durability hours, the scheduled maintenance for the test engines should be at the mid point (i.e., 25, 62 or 63, 125, 150 or 250 hours, respectively). This is determined by dividing the durability hours by the 2-year useful life defined by the emission warranty regulations. Other test engine maintenance schedules are approved on a case-by-case basis.

2. The EMA's suggested substitution in item 6. of the streamlined application format is not acceptable. The intent of this item is to clearly indicate that engines that are normally preempted are certified to fulfil the agreement between the EMA and ARB leading to the adoption of the small off-road engine regulations in March 1998. The incidental use of some engines of a certified engine family in preempted equipment, as apparently suggested in your letter, does not fulfil this agreement. Nevertheless, to emphasize this point, the ARB will amend the heading of this item to read, "Are engines in this engine family intended mainly for use in preempted equipment?"

3. The EMA's proposal to include information about the 49-state projected sales figure in item 11.a. of the application of each engine family is acceptable.

4. The meaning of "maximum rated power" in item 34 of the streamlined application format is unchanged from presently. This is the maximum rating of some engine code or configuration among the many power ratings of the many engine codes or configurations that are offered in the engine family. Manufacturers can use the advertised power or the highest modal power; however, this needs to be consistent with the power reported for each engine code or configuration in the engine family and throughout the manufacturer's product offering.

5. Part number and the inclusion in warranty coverage for the "fuel pump" is limited to fuel injection pumps (e.g., throttle body fuel injection, multi port fuel injection, diesel injection). Transfer pumps (e.g., from the fuel tank to carburetor bowl) are not included.

6. The four small boxes for label and warranty information that are presented on the same page in the application format are intended as guidance about what information is required in an application. Manufacturers can use separate pages of the application for this purpose.

7. A "Glossary of Terms" will be added to the application format.

II. Deterioration Factor (DF) Test Procedure (April 26,1999)

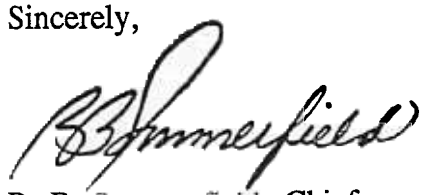
This proposed DF test procedure is an amendment to the one dated March 8, 1999, by adding a section to address engines with adjustable parameters. As discussed at the workshop, engines with adjustable parameters are to be tested at the extreme ranges of adjustment at each test point. Optionally, manufacturers may test the engine using the nominal setting of the adjustment at each test point, provided that emission tests at the extreme ranges of adjustment are conducted at the final test point. The emissions, including those conducted at the extreme ranges of adjustment, must not exceed the emission standards (or family emission limits, FELs, as applicable). The projected deterioration line may exceed the emission standard (or FEL) at the useful life point, provided that no actual test data exceeds the standard (or FEL).

In the EMA's proposed DF test procedure, actual test data may exceed the standard (or FEL) as long as the projected deterioration line does not. This is not consistent with the discussion during the workshop or the ARB's requirement that the test engine complies with the emission standards (or FELs).

Based on the discussion above, the EMA's proposed DF test procedure (April 26, 1999) is approved with the following modification. The durability engine must comply with the emission standards (or FELs), including when tested at the extreme ranges of adjustment. The projected deterioration lines from which to determine the DFs may exceed the standards (or FELs) at the useful life point provided that no actual test data exceeds the standard (or FEL).

A Manufacturers Advisory Correspondence (MAC) will be issued soon to promulgate the ARB's implementation policies. The MAC will reflect the EMA's and others' comments, and the ARB's responses as discussed above. If you have further questions or comments, please contact Mr. Duc Nguyen, Manager, Certification Section at (626) 575-6844.

Sincerely,



R. B. Summerfield, Chief
Mobile Source Operations Division